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The Design of Personalised, Experiential Learning Infrastructure Centred On Human Cognition and Emerging Pedagogical Trends

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Abstract

Advancements in digital technologies such as artificial intelligence (AI) and virtual reality (VR) together with an improved understanding of human cognition call for a re-thinking of the approach to education. There is potential for better use of human resources, and opportunities for pedagogical improvements. AI can personalize and optimize learning environments, help students become more creative and enthusiastic through gamification, and help them gravitate towards suitable professional roles. Knowledge about human nature, cognition, learning and universal design principles make it possible to create a flexible and adaptable e-learning infrastructure personalisable to the learner's needs through humancentred AI. This paper presents an e-learning infrastructure (GamiLearn.AI) powered by the latest developments in AI, VR, cognitive science and emerging pedagogy trends to help jobseeking students gain experiential learning through industry projects, internships, and active engagement with organizations, while smoothly gravitating towards a suitable professional position and a better self-understanding. In an attempt to cope with the dynamic market conditions, and the influence of digitalisation organizations are in constant search for suitable employees who would fit their organization, the ongoing projects and the specialized roles expected of them with minimal training and skill development. The proposed self-paced and self-curated e-learning infrastructure creates win-win situations for all involved stakeholders through personalisation, gamification and experiential learning. This research is grounded in design thinking and user research. The results from a focus group discussion, three interviews with IT organizations and two workshops with students has driven the design of the proposed Gamilearn.AI e-learning infrastructure.

Keywords: E-learning, experiential learning, gamification, personalization, artificial intelligence